

U.S. Patent Application Serial No. 09/643,912

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (Canceled)

Claim 2 (Canceled)

Claim 3 (Canceled)

Claim 4 (Canceled)

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Claim 5 (Currently Amended): A catalyst warming control apparatus including a catalyst temperature sensor for a hybrid vehicle asserting control over the vehicle both when the vehicle is moving and when the vehicle is standing still, having an internal combustion engine, a generator for generating electric power from an output of the internal combustion engine, a power storage unit for storing electric power generated by the generator, and an electric motor driven by the electric power stored in the power storage unit, the hybrid vehicle being driven by at least one of the internal combustion engine and the motor, the catalyst warming control apparatus comprising:

a clutch for performing the connection or disconnection of the transmission of the power between the generator connected to the engine, and the motor;

a coolant temperature detector for detecting an engine temperature of the internal combustion engine;

a first comparison circuit for comparing the detected engine temperature with a preset first reference value; and

U.S. Patent Application Serial No. 09/643,912

a control circuit for allowing the generator to generate electric power and to store the power in the power storage unit when the internal combustion engine is driven, and when the detected engine temperature is equal to or below the first reference value.

Claim 6 (Previously Amended): A catalyst control apparatus according to claim 5, further comprising:

F1 a remaining charge detector for detecting a remaining charge of the power storage unit or a value relating to the same; and

a second comparison circuit for comparing the detected result from the remaining charge detector with a present second reference value relating to the remaining charge, wherein

the control circuit drives the vehicle by the output from the internal combustion engine, engages the clutch, and allows the generator to generate electric power and to store the power in the power storage unit, when the detected result from the temperature detector is equal to or below the reference value according to the output from the first comparison circuit, and when the detected result from the remaining charge detector is equal to or below the second reference value relating to the remaining charge according to the output from the second comparison circuit.

Claim 7 (Previously Amended): A catalyst warming control apparatus according to claim 5, further comprising:

a remaining charge detector for detecting a remaining charge of the power storage

U.S. Patent Application Serial No. 09/643,912

unit or a value relating to the same; and

a second comparison circuit for comparing the detected result from the remaining charge detector with a preset second reference value relating to the remaining charge, wherein

FI the control circuit allows the generator to generate electric power, disengages the clutch, and drives the vehicle by the generated electric power and stores the electric power, when the detected result from the temperature detector is equal to or below the first reference value according to the output from the first comparison circuit, and when the detected result from the remaining charge detector is above the second reference value relating to the remaining charge according to the output from the second comparison circuit.

Claim 8 (Previously Added): A catalyst warming control apparatus according to claim 5, wherein the control circuit allows the generator to generate electric power, and drives the vehicle by the motor, when the detected result from the temperature detector is equal to or below the reference value according to the output from the first comparison circuit, and when the detected result from the remaining charge detector is above the reference value relating to the remaining charge according to the output from the second comparison circuit.
